Evidence for Dove Breeding in the Iron Age: A Newly Discovered Dovecote at ‘Ain al-Baida/‘Amman[*]

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Abstract

This paper presents new evidence for dove breeding in the vicinity of ‘Amman during the late Iron Age. A rescue excavation, carried out by the author between the 3rd and 13th of July 2011, identified an underground dovecote[1] (columbarium)[2] at the site of ‘Ain al-Baida near Khirbet Musalam. Raising doves for food, as sacrificial animals, for communication and pleasure or even for magic or oracular prophecies was wide-spread in the ancient world, where man was able to attract wild doves with food and a safe place to nest. What might be considered a “dove cultivation industry” was known in Egypt and the Middle East from as long as agriculture has been practiced. The discovery of an Ammonite dovecote at the site of ‘Ain al-Baida raises questions concerning the date of similar structures in Jordan.

Keywords: ‘Ain al-Baida, Dovecote, Columbarium, Iron Age.

Introduction

‘Ain al-Baida

The site was noticed by two graduate students in the Department of Archaeology of the University of Jordan, Zeid Adnan Tahseen and Abid al Kareem al Hbeishan. Since the site lies close to Al-Urdon Road, it has been targeted by looters. A rescue excavation was carried out by the author in co-operation with the Department of Antiquities, which was represented by Samar Habahbeh. The work was carried out from the 3rd to the 13th of July 2011. The expenses of the project were covered by a grant from the Deanship of Academic Research at the University of Jordan.

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[1] Dovecotes are also referred to as columbaria or pigeon houses.

[2] A columbarium (pl. columbaria) in Latin is literally a nesting box for pigeons, equivalent to (columb; a pigeon or dove + arium= ary).

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The site is located to the northwest of Queen Alia Hospital, about 2 km south of the site of Yajuz, not far from the main highway, Al-Urdon Road, from ‘Amman to Jerash. Close by are the site of ‘Ain al-Baida, an Ammonite settlement, and a number of *Rujms* (stone-built towers), a dam and a structure known as Qasr ‘Ain al-Baida (Qasr Helileifeh) (fig.1). In 1938 Nelson Glueck carried out a surface survey in the ‘Amman region and documented the sites of Khirbet ‘Ain al-Baida (site no. 243), Rujm ‘Ain al-Baida (site no. 244) and Umm Rujum (site no. 245) (Glueck 1939: 183-186). In 1988 another major survey of greater ‘Amman was conducted as part of the Cultural Resource Management Project (Abu Dayyah et al. 1991: 361-395). The survey team revisited and recorded key sites, stretching from Shafa Badran on the north to Yadudah in the south and from Wadi as-Seir in the west to beyond Marka to the east, previously identified by Glueck and other researchers (Abu Dayyah et al. 1991: 393).

A grid of 10x10m squares was laid out at the site and the underground structure reported here, hewn in soft chalky limestone, and the steps leading to it lay in Area B, Square A1 (fig. 2).



Fig. 1: The newly discovered site of ‘Ain al-Baida dovecote and other nearby archaeological sites

1 ‘Ain al-Baida dovecote
2 Rujm ‘Ain al-Baida
3 Al Maddba'a 2
4 ‘Ain al-Baida Ammonite Settlement
5 Rujm ‘Ain al-Baida 1
6 Rujm ‘Ain al-Baida 2
7 Rujm ‘Ain al-Baida 3
8 Rujm ‘Ain al-Baida 4
9 ‘Ain al-Baida dam
10 Qasr ‘Ain al-Baida (Qasr Helileifeh)
11 Yajuz
12 Roman Road
13 Al Maddba'a Quarry

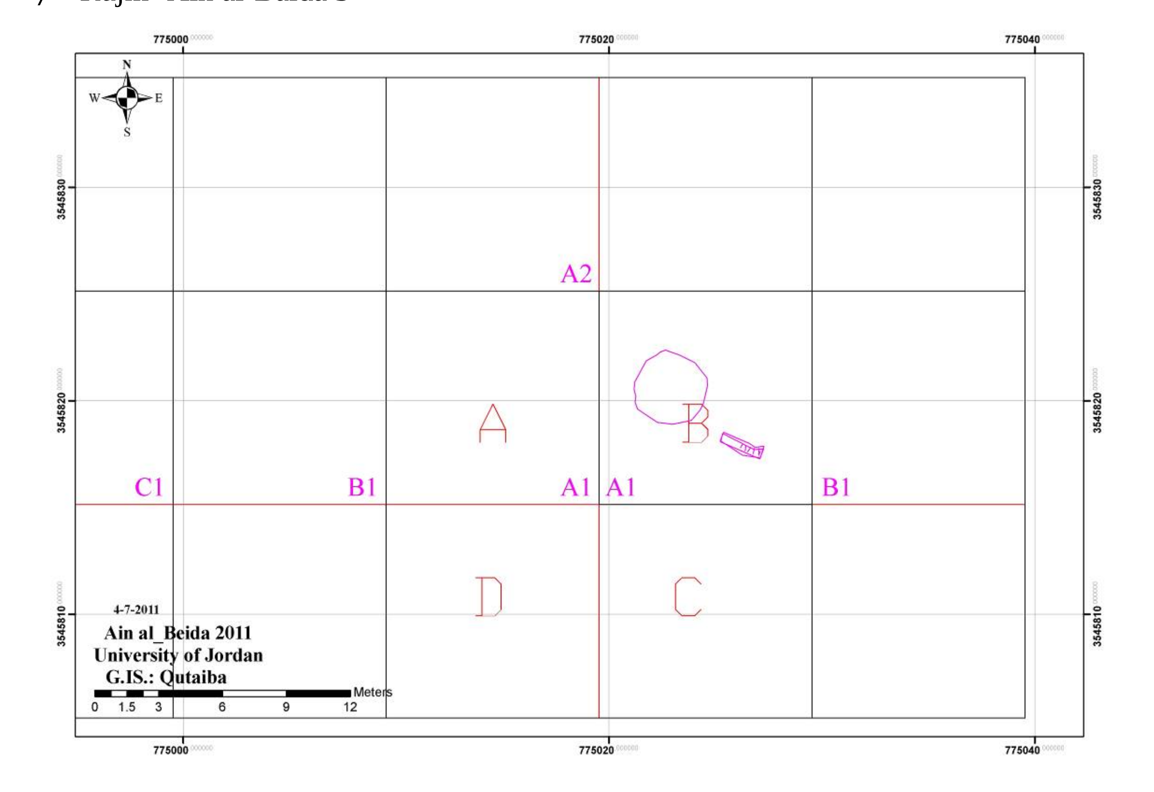


Fig. 2: A grid plan of the site

The opening of the dovecote has a diameter of c. 3m, and a depth of c.2.80m. The stairs extend for c.1.90m with a width of 43-60cm and the interior has the shape of a well hewn from the soft lime stone. All of the interior surfaces are honeycombed with almost 300 niches to accommodate doves for breeding. Five posts were hewn from the limestone in order to support the structure and the space gained on the posts was used to make more niches, making maximum use of the space (figs. 3, 4, 5 and 6). The measurements of the niches varied from c.15-25cm in width and 12-16cm in length, with a depth ranging between 15-25cm. Due to the limited time and budget of the excavation, the team was unable to follow the extension of a passage connected to the structure, which could be linked to other dovecotes in the vicinity, a question that awaits future work.



Fig. 3: The subterranean dovecote at ‘Ain al-Baida

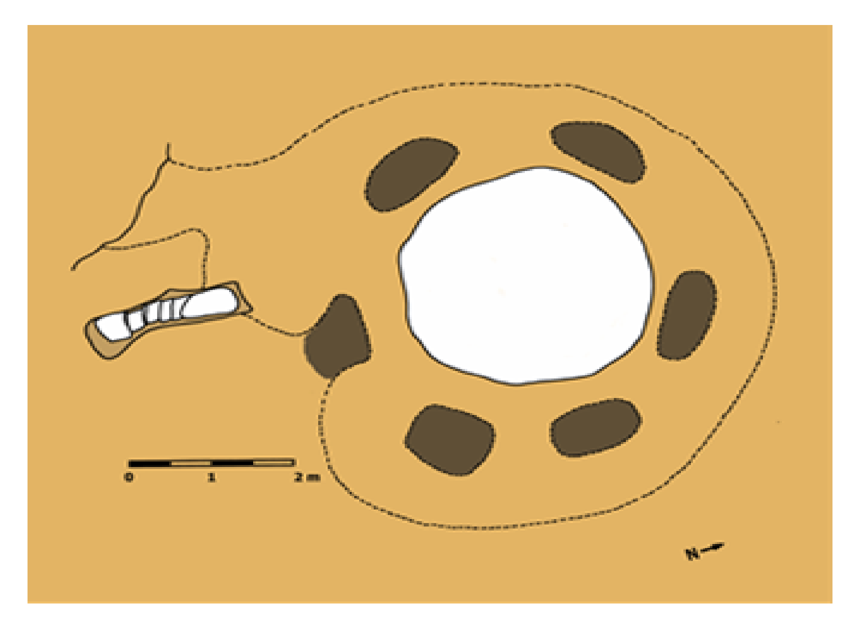


Fig. 4: Drawing of the excavated dovecote



Fig. 5: Part of the subterranean dovecote at ‘Ain al-Baida with two intact posts



Fig 6: Details of the nesting niches inside the dovecote

Pottery: Comparable Study and Dating

The dovecote was recently disturbed by looters and therefore the stratigraphy is not clear. Quantities of pottery sherds were found both inside and outside the dovecote. Remarkably these sherds are all from the same vessel form, and no other types of pottery were discovered (fig.7). The pottery sherds from the excavated area belong to a single group of vessels that bear the same characteristics:

cylindrical hole-mouth jars, without handles and with rounded bases. The rim fragments (fig.7, nos.1-6) are frequently attested in the literature and comparable parallels come from Beth-Shemesh (Amiran1969: 247, Pl. 82.9-11) (dated to the 8^{th}-6^{th} centuries B.C.). ‘Amman also provides very close parallels dated to the Iron II/Persian periods (Abu Dayyah et al.1991: 372, nos.16-19). Furthermore, Gitin (1979: 112, nos. 6-7) offers similar parallels from Gezer that are attributed to the late 8^{th} century B.C. Hence, based upon those parallels, it can be deduced that the ‘Ain al-Baida dovecote dates to the period from the late 8^{th} to the 6^{th} centuries B.C.

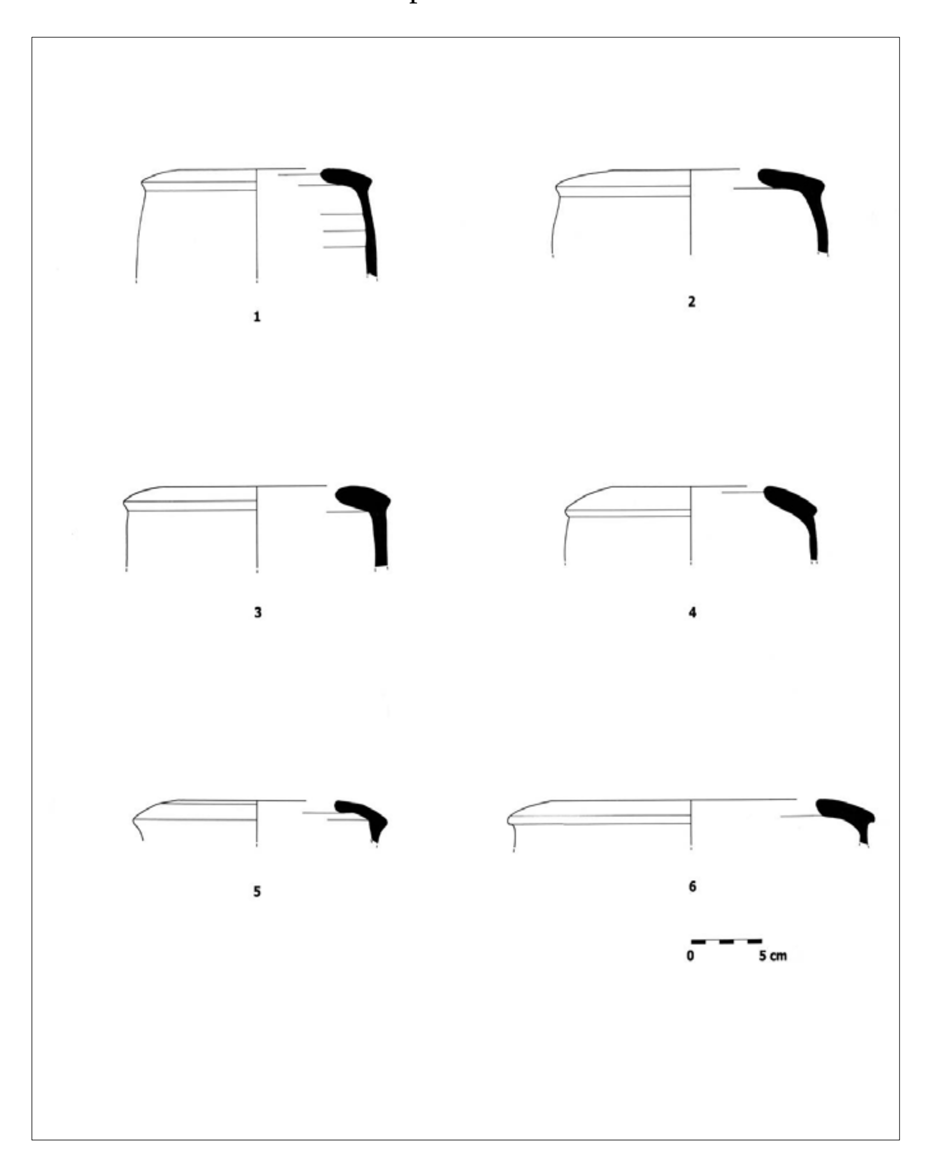


Fig. 7: Hole-mouth Jars from ‘Ain al-Baida dovecote, Iron II Period

Dovecotes: Construction and Function

Dove-breeding is frequently attested in literary sources that mainly belong to the Roman period. Several Roman writers on agriculture deal with the subject of dove-breeding, providing guidelines for raising doves and shedding some light on these dovecotes. Dovecotes were constructed in different forms, and within each form there are variations in details: the type that has a tower- like form has been identified at a number of sites in Palestine such as Jericho, Jerusalem, Herodium, Mazor, Khirbet Abu Haf, Masada and Khirbet Aleq, and other sites (Fig. 8). Those towers had common features: a circular plan, internal divisions formed by partition walls intended to hold niches and help support the roof, and a plaster covering on the lower part of the exterior of the towers to keep reptiles from crawling in, and all were built in the vicinity of agricultural fields or a settlement. The above-mentioned towers were mainly dated to the Hellenistic and Roman periods (Zissu 1995: 57-69; Netzer 1993: 973-979). Such types of towers are not reported in Jordan, but it is reasonable to suggest that such structures were erected, based on the evidence from Palestine.



Fig. 8: First century B.C. mosaic of a dovecote tower found in Palestrina near Rome[3]

Dovecotes were also hewn out of the sides of caves. The relative softness of the

[3] (http://www.wysinfo.com/Pigeons/History_of_pigeons_doves.html)

limestone in the foothills of Jerusalem created conditions for the excavation of underground structures, with round, square or more complex shapes, including several halls. In Palestine hundreds of rock– hewn caves were discovered, mainly in the central highlands (fig. 9). Most of those caves probably served as quarries, where soft limestone was removed and burned to obtain lime. It is difficult to determine if such caves were later used as dovecotes, or if they were originally intended to function as dovecotes. The ease of hewing the soft limestone and the limited cost involved in such projects made them more popular than above-ground construction where the expense of building, and maintenance would be higher (Archibald et al. 2005: 89; Negev and Gibson 2005: 124).

At Marissa (Tell Sandaḣannah) in Palestine, many hundreds of caves were excavated from the soft chalky local rock. While the caves served different purposes, more than sixty dovecotes were identified, for a total number of 50,000-60,000 niches (Stern et al. 1993: 951).

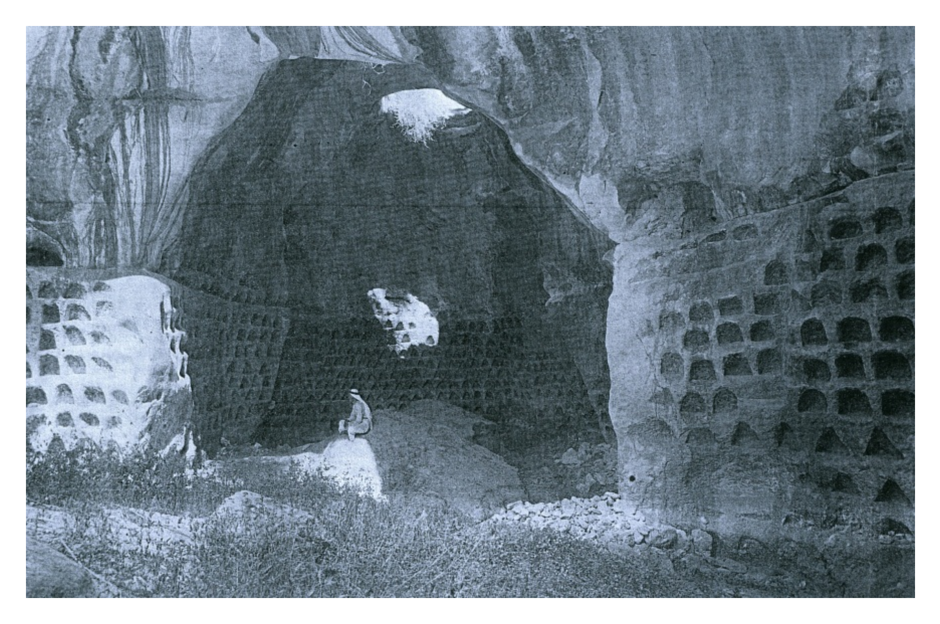


Fig. 9: A cave for raising doves at Beit Gibrin[4]

In Jordan, examples of dovecotes carved out of hillsides as in Palestine are few; they are attested at el-Ḥabis at Petra (fig.10), which is composed of a square chamber (c.

[4] Kloner 1993: 200.

4.28m by 4.30m), with small square niches (c. 25 x 25cm) hewn in tiers on the back and right walls as well as on the entrance facade of a chamber (Dalman 1908: 229-230; McKenzie 1990: 171-172; Browning 1977: 165; Kennedy 1925: 61).

The site of Iraq al-Amir provides us with additional examples. Here again the caves served different functions; however, Cave 6 has a series of niches carved into the left-hand wall. Nearby stands a detached block of stone, also carved with niches. At the site of Mu‘allaqat al-Dayr (fig.11) two parallel chambers, complete with windows and doors (2.90m x 7m), are cut in the rock of the cliff. Each chamber consists of three floors; the first is 2m high; the second 2.6m high and the third 2m. About 800 triangular niches were carved into the interior walls of the two chambers: six rows of niches in the first floor, seven in the second, and eight in the third. The niches are 22cm high, 25cm wide at the base and 22 to 25cm deep (Butler 1907: 29-32; Ji 1998: 434).Other similar structures, excavated from a hillside, are found at Muqablein/‘Amman (fig.12) (Amr 1973: 73-74), at el-Umeiri,[5] and at Wadi Shu‘ayb (fig.13) The first two are rather similar, consisting of two chambers that are full of hundreds of small niches.

[5] The excavating team at Tell el-Umeiri considers the mentioned structure a columbarium for keeping cinerary urns, a point of view that is not shared by the author for more than one reason. The practice of cremation was not the method of burial in the area, and the niches are rather small to accommodate an urn. Fuller mentions a “columbarium” at Abila; in his opinion, the niches served as offering receptacles for the dead (Fuller 1987: 270).



Fig.10: The El-   abis dovecote in Petra (photo by A. Hbeishan)



Fig. 11: Inside Mu‘allaqat al-Dayr (photo by the author)



Fig. 12: The Muqablein dovecote (photo by the author)



Fig.13: The Wadi Shu‘ayb cave with traces of the niches still visible (photo by the author)

Inside such structures wooden boards probably extended between rows of niches, providing a place for the doves to perch. The Roman author Varro (1st

century B.C) mentions the use of such wooden boards in his *Rerum Rusticarum* (Varro 1934: III.7). Qastos Ibn Luqa (died c. 912 A.D.) a physician and scientist who was famous for his translations of Greek texts into Arabic , mentions in his book *Al-Filaha al-Rumiyah* (Greek (Rumi) Agriculture) that these wooden ledges were added inside dovecote towers (Qastos Ibn Luqa 1293h: 140).

The purpose of raising doves as attested in ancient sources:

Wild rock doves found places of shelter and safety in nest holes in the earliest human houses. Doves and pigeons raised in dovecotes in ancient times were considered domestic animals; they were fed according to a regular schedule, and therefore were available for immediate use (Safrai 2005: 99). As an object of sacrifice, the dove appears to have been a sacred bird in various areas of the Mediterranean (Mackenzie 1915: 426, 430).Traditions concerning the sanctity of doves include the practice of sacrificing doves on the porch of the Tuklu-building mentioned in texts from Emar (modern Tell Meskene along the Euphrates in Syria), recorded mostly in Akkadian and dating from the 14^{th} century B.C. to the fall of Emar in 1187 B.C. (Pentiuc 2001: 22). Semiramis, Decreto, Ishtar or Astarte (Atargatis) were symbolically represented as doves or were portrayed holding doves. It was believed that the goddesses of motherhood and femininity were protected by doves (Pliny 1855: 5.13). According to legend, as was attested by Xenophon and, much later, by Lucian, the Syrians took precautions not to harm doves and fish, since they believed that the Syrian goddess Decreto (Astarte) had been transformed into a fish and her daughter Semiramis into a dove (Xenophon 1922: 1.4.9; Lucian 1913: 14).

Although, it is difficult to confirm or deny from archaeological evidence that doves were raised for sacrificial rites or cultic purposes, some scholars tend to make a connection between dovecote structures and nearby temples or places of worship. For Oren, the existence of a large number of columbaria caves around Marissa in Palestine, would seem to indicate that the city served as a center for the cult of the sacred doves of Aphrodite-Atargatis who was worshipped by the Hellenized Sidonian colony (Oren 1968: 61). Ji has proposed that a number of detached blocks of rock–cut installations (columbaria) scattered near the village of

Iraq al-Amir were cultic places. To Ji, because the religion of the Tobiads has been shrouded in considerable darkness, the detached rock columbaria might provide clues to their cultic practices (Ji 1998: 432-436). At Petra, the columbarium at the base of el- abis might also be related to the nearby temple of Qasr al-Bint.

From antiquity to the present day, it has been a common practice in many parts of the world to bring a lamb for sacrifice on different occasions, such as the birth of a child, and since sacrificial offerings in temples played an essential role in supplying food for clergy, those of modest means were encouraged instead to bring turtle doves, as done by the family of Jesus, who offered a pair of doves at his birth (Leviticus 1:14, 5:7, 12:8; Luke 2:24). Besides being raising for sacrificial purposes, doves were also raised for domestic culinary use. As a source of food, during periods of scarcity and shortages, especially winter, dove meat is lean, mild, and full of protein and vitamins, and is digested easily. (Hansell and Hansell 2001: 5-6).

Qastos Ibn Luqa wrote, "Eating regularly from the meat of little doves strengthens the body and strengthens the nervous system" (Qastos Ibn Luqa 1293h: 140-141).

Raising doves was of high economic value, and large dovecotes were commercial enterprises. At Marissa in Palestine, oil production and pigeon raising in subterranean installations of Roman date represent the two main commercial industries at the site and served as the primary income for between 14-20% of the city households (Archibald et al. 2005: 94).

Roman writers valued the high rate of reproduction of doves. Varro writes "...nothing is more prolific than the pigeon, thus, within a period of 40 days it conceives, lays, hatches, and brings off its young .." (Varro 1934: III.7,8 ; Qastos Ibn Luqa 1293 h: 140-141). In his treatise on farming, *De Re Rustica*, Palladius, a Roman agricultural writer in the 4th century A.D. says: "Bringing up turtle-doves is very easy, for they desire nothing but to have wheat or millet macerated in hydromel in the summer with which alone they are mostly fatted, half a modius a day is sufficient for a hundred and thirty doves. Clean water ought to be brought to them frequently" (Palladius 1807: XXIV, XXV).

While doves were highly valued as a source of food, the dung of the birds was also of high value as a fertilizer. Roman writers in agricultural fields give advice concerning the use of the dung. Varro, Cato and Qastos Ibn Luqa advise the pigeon keeper to sweep the dung out frequently and spread it on meadows, gardens and field crops, for the droppings that make the place filthy are well suited for fertilizing and were considered the best kind of fertilizer (Varro 1934: III. 7,8 ; Cato 1934: chap. 36; Qastos Ibn Luqa 1293 h: 141; Amirkhani et al.2009: 177-186).

Pliny in the 1st century A.D. talks about people who had a mania for doves, "..many persons have quite a mania for pigeons, building towns for them on top of their roofs, and taking a pleasure in relating the pedigree and noble origin of each. Of this there is an ancient instance that is very remarkable, L. Axius, a Roman of the equestrian order, shortly before the civil war of Pompeius sold a single pair for 400 denari" (Pliny 1855: 10.53).

Dating and Historical Context

It is possible to date the dovecote at ‘Ain al-Baida to the late 8th to the 6th centuries B.C., based on the characteristics of the pottery sherds that were found inside and around the ‘Ain al-Baida dovecote. The site of ‘Ain al-Baida lies in an area that is rich with Ammonite settlements, as evidenced by a number of towers (*rujms*) identified at the site. Between the 9th and 7th centuries B.C., stone statuary of high quality was produced in Ammon as a result of the Pax-Assyriaca (Assyrian peace) which provided the conditions necessary for Ammon to embark on an era of cultural and economic prosperity (Northedge 1992: 24-25). The tribal social structure of the Ammonites was linked to the way they obtained food. The Ammonites were "range-tied shepherds and land-tied farmers". Food production was affected by climatic changes, trade and politics. In such an environment, rural settlement patterns were not rigid (MacDonald and Younker 1999: 19-22).

The richness of Ammon is attested in the ancient sources. Tribute was paid to the Assyrians, and records confirming this fact have survived from the times of Shalmaneser III (858-824 B.C.), Tiglath-Pileser III (744-727 B.C.) and Sennacherib (704-681 B.C.) (Pritchard 2011: 256, 270).The prosperity of Ammon

continued into the 7th and 6th centuries despite its subjugation by the Babylonians. Rabbat Ammon was a thriving royal city in the Iron Age II, surrounding it were smaller towns, villages, fortresses and rural farmsteads (Herr and Najjar 2001: 336). A survey of Greater ‘Amman conducted in 1988 came to the conclusion that the majority of the sites identified dated to either the Iron Age II or the Roman/Byzantine/Umayyad periods, two phases of very intensive settlement in the region (Abu Dayyah et al. 1991: 366).

This new discovery at ‘Ain al-Baida might help in dating other dovecotes in Jordan, something that is considered to be a difficult task since the modern reuse of such open and easily accessible caves makes dating them quite difficult. Although the date of the caves at Iraq al-Amir remains a matter of controversy among scholars, earlier interpretations have been reconsidered on the basis of recent studies. New evidence is now available for a late Iron II and the early Persian period presence

in the settlement at Iraq al Amir, which continued into the Hellenistic period (Dentzer et.al.1982:206-207; Ji 1998: 419-425). Ji and Lee conclude from their survey of the regions of Iraq el Amir and Wadi el Kafrayn that the regions of Wadi Shu‘ayb need to be treated as a continuation of the settlements in the Iraq al-Amir region. They proposed that the Tobiads, the influential and wealthy family in the area, were possibly involved in building settlements for strategic and commercial purposes along Wadi al-Kafrayn and Wadi Shu‘ayb. They also suggested that the onset of the Tobiad habitation at Iraq al-Amir happened no later than the late Iron II and in the early Hellenistic period (Ji and Lee 2000: 183). For the El-Umeiri dovecote, Geraty, Herr and LaBianca suggest a Byzantine date, without providing evidence, although pottery finds from the surface survey within a 5km radius of Tell el-Umeiri had numerous sherds from EB, Iron I, II, early and late Roman, Byzantine and Umayyad periods (Geraty et al. 1987: 197,199).

Conclusion

The archaeological remains of dovecotes from antiquity do not indicate the actual numbers that were in use, since the common practice was to build dovecotes in the upper storey of houses, or in the form of towers. Hence, it is expected that

they would have been the first part of the house to fall into ruin (Husselman 1953: 81-91). Installations such as those hewn into the rock provide the maximum number of dove nesting niches with a minimum amount of building expense. It is a pity that rural life has changed so rapidly in Jordan. Rev. Post, writing in the spring of 1886 (Post 1886: 192), says: “the cliffs above the caverns at Iraq al Amir are full of turtle doves”. The author noticed that the people at al-Dayr called the structure “pharmacy of doves”, a name that echoes past use.

A number of species of doves and pigeons are still breeding in Jordan, the most common is the rock dove (Columba livia), which is the closest to its wild ancestors. Also from the columbidae family, turtle doves, Eurasian doves and laughing doves are wide-spread (Sutari 1996:88-90).

Although the results gained from the dovecote excavation at ‘Ain al-Baida are limited, they do contribute to our understanding of settlement history and land use in the hinterland of ancient Rabbat Ammon. Survey and excavation documented the remains and traces of more than 130 Ammonite towers commonly built in agricultural lands around Rabbat Ammon, dating back to Iron II. Such a large number provides proof of the level of development and prosperity of the Ammonite Kingdom, especially in the 7th and 6th centuries B.C. (Najjar 1992: 414; Momani 1996: 93-94).As Dornemann expresses it, the tribute paid to the Assyrian overlords was really a small price to pay for the relative security which paved the way for growing prosperity (Dornemann 1983: 175).

In conclusion, it is reasonable to suggest that more dovecotes were either built or cut into the rocky cliffs in the vicinity of ancient Ammon and that they were likely connected to large estates or farm holdings in the area.

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دلائل على تربية الحمام خلال العصر الحديدي: إكتشاف أثري جديد في عين البيضا/ عمان*

رندة فؤاد قافيش**

ملخـص

كشفت حفرية إنقاذية في موقع عين البيضا (شمالي شرقي عمان)، وتمت في شهر تموز ٢٠١١، عن منشأة عمونية، كانت تُستخدم لتربية الحمام. وتكمن أهمية المعلومات المستقاة من هذه الحفرية، بأنها تلقي المزيد من الأضواء على تاريخ العمونيين، ونشاطاتهم الإقتصادية، في عاصمتهم ربة عمون.

ويطرح هذا الإكتشاف، تساؤلات مهمة حول منشآت مشابهة تم تأريخها، بشكل إفتراضي، إلى عصور لاحقة على العصر الحديدي. لكن من المؤكد أن تربية الحمام على نطاق واسع، هو نشاط إنساني ضارب في القدم، سواء لاستخدام هذه الطيور مصدراً غذائياً أو وسيلة إتصال أو أضحيات أو لاستخدامها في العرافة.

الكلمات الدالة: عين البيضا، برج الحمام ، العصر الحديدي

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* تم انجاز هذا البحث بدعم من عمادة البحث العلمي، الجامعة الأردنية.

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تاريخ استلام البحث ٢٠١٢/٣/٢٠م، وتاريخ قبوله للنشر ٢٠١٢/٥/٢٤م.